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COMPARATIVE STUDY OF LIPPES LOOP AND CuT INSERTED IN IMMEDIATE POST-ABORTAL PERIOD*

by

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Since publication of satisfactory results by Oppenheimer from Israel and Ishihama from Japan in 1959, intrauterine contraceptive services have been used extensively all over the world from 1960. Margulies spiral and Lippes loop made of plastic material have been given thorough trial in various clinics with variable complications. Since then, I.U.C.D. of various designs and varieties of shapes and sizes have been introduced. These are Dalkon Shield, Antigon, Saf-T-Coil, Cu T, Cu 7, Cu Y etc.

Originally, tde intrauterine devices were used in interval phase and at least 2 months after confinement and 1 month after abortion. With improved knowledge and experience in this subject, the devices are being tried in many debatable conditions including immediate puerperal and post-abortal cases. If the patients are asked to come for insertion 8 weeks after confinement or 6 weeks after abortion particularly in our country, either majority do not turn up or some them may be pregnant by this time. Insertion of the device at that state is bound to meet with disrepute. If the device is used in the early puerperium or in immediate post-abortal period then many women desirous of contraception will get the benefit of the device before they go home. Easy insertion of device is another advantage.

Although fairly intensive trial of the device has been given in immediate puerperal period by Zipper, 1964; Phatak and

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Viswanath, 1966; Hingorani, 1972; Sur and Roy Chowdhury, 1968, very little work has been done on insertion of the device in immediate post-abortal period. Andolsek (1971) has done pioneering work in the field of immediate post-abortal insertion of device. Fear of increased complications including perforation of the uterus, higher expulsion rate and greater risk of pelvic inflammation in immediate post-abortal insertion has prevented its more frequent use.

The present study is to establish the safety and efficacy of immediate post-abortal insertion of two different types of I.U.C.D., namely, Lippes loop and Cu T. Copper devices have been claimed to cause less insertional bleeding, less expulsion, less menstrual disturbances than inert I.U.C.D.'s like Lippes loop and to be better suited for nulliparous women. The aim of the present investigation is to make a comparative study of 3 groups of cases in immediate post-abortal period, regarding ease of insertion, insertional bleeding, post-menstrual cramp like pains, menstrual disturbance, continuation of device and incidence of pregnancy. The cases were grouped into—

Group A: Post-abortal cases where no intrauterine device was inserted—100 cases.

Group B: Immediate post-abortal cases where Lippes loop (27.5 mm size) was inserted—100 cases.

Grroup C: Immediate post-abortal cases where Cu T 200 was inserted—100 cases.

Material and Method

Three hundred cases were selected from Medical Termination of Pregnancy Clinic of Eden Hospital, Medical College, Calcutta, from the period from 1st December, 1974 to 30th May, 1975. All these cases had out-patient termination of pregnancy by vacuum aspiration without local or general anaesthesia. No premedication was given. Barklay's vacuum aspirator was used in all cases terminated within 12 weeks of gestation. In this series vacuum aspiration was done with disposable plastic canula of Karman's type varying from 4 to 6 m.m. in size depending on condition of cervix and parity.

Check curettage was done only in those cases where there was any suspicion of incomplete evacuation particularly in cases with 10 to 12 weeks of gestation.

After completion of vacuum aspiration and immediately post-abortal insertion of I.U.C.D., the cases were kept in the Waiting Room for 1 to 2 hours before they were discharged from the hospital. Women were randomly selected to one of the three study groups. Although all of the women thought that they had insertion of device, in fact one group received Lippes loop (Group B), one group Cu T (Group C), and the other group did not receive any device (Group A) in immediate post-abortal period. Since the design was double-blind, the attending physician had no prior knowledge as to which women were to receive the particular type of device, nor did the physician at the follow-up know until after the physical examination.

The women were instructed to come to the follow-up clinic 6 days after aspiration with or without insertion of device and subsequently after 4 weeks, 12 weeks and 24 weeks.

Analysis of Data

It is apparent from the Table I that some amount of vaginal bleeding continued upto 10 days in all the three groups, incidence varying from 24 to 36

TABLE I
Duration of Bleeding After Discharge

Duration (Days)	Group A No.	Group B No.	Group C No.
No bleeding	21	8	14
1 to 4	19	10	22
5 to 9	12	12	18
10 to 14	9	18	11
15 to 19	7	21	12
Above 20	5	20	9
No Information	27	11	14
Total	100	100	100

per cent. Subsequently the number of cases having bleeding, decreased in Grorup A, where device was not inserted. Between Groups B and C duration of bleeding markedly decreased in latter.

Table II shows maximum number continued bleeding both 7 days and 1 month after discharge, in Group B varying from light to heavy where Lippes loop were inserted. Cu T had an appreciable improvement in this aspect but certainly with some incidence of bleeding varying from light to moderate in comparison to Group A.

Table III shows that the incidence of abdominal pain in follow-up cases belonging to Group B was more both 7 days and 1 month after the insertion than in Group C and Group A. There was hardly any difference in incidence of cases complaining abdominal pain between Group A and Group C.

Table IV represents that there was difinite increase in leucorrhoea and pelvic pain in Group B in comparison to Group C and Grrourp A.

TABLE II
Distribution of Cases by Amount of Bleeding After Discharge

Amount	Group A		Group B		Group C	
	7 days	1 month	7 days	1 month	7 days	1 month
None	35	53	14	38	17	54
Light	28	12	21	15	44	13
Moderate	15	7	39	24	20	10
Heavy	7	2	17	11	8	4
No information	15	26	9	12	11	19
Total	100	100	100	100	100	100

TABLE III
Distribution of Cases Having Abdominal Pain in Follow-up Period

Abdominal Pain	Group A		Group B		Group C	
	7 days	1 month	7 days	1 month	7 days	1 month
None	49	58	32	38	47	57
Mild	17	10	26	22	18	12
Moderate	13	4	24	21	15	7
Excessive	2	1	7	4	4	2
No information	19	27	11	15	16	22
Total	100	100	100	100	100	100

TABLE IV
Distributions by Complaints

Complaints	Group A	Group B	Group C
None	33	14	34
Leucorrhoea	17	23	14
Pelvic pain	4	20	6
Weakness	32	33	34
Urinary tract infeciton	0	0	0
No information	14	10	12
Total	100	100	100

Table V shows that in Group B there was early onset of menstruation in comparison to Group A and Group C. There was hardly any difference between Group A and Group C regarding onset of menstruation.

TABLE V
Distribution of Cases by Interval Between Vacuum Aspiration and First Menses

Interval (days)	Group A	Group B	Group C
No menses as yet	12	15	8
20 to 29	19	46	23
30 to 39	53	21	49
40 and above	6	5	8
No information	10	13	12
Total	100	100	100

Table VI shows that there was increase in incidence of removal of the device in Group B in comparison to Group C. There was I incidence of expulsion and no pregnancy in Group C, whereas the expulsion rate was 7 per cent and pregnancy rate—1 per cent in Group B.

Discussion

In this study extensive analysis has been made with respect to numerous variable factors which might affect difference between three study groups namely, non-insertion (Group A), Lippes loop (Group B) and Cu T (Group C) inserted immediately after termination of pregnancy by vacuum aspiration. Since introduction of I.U.C.D. in mid 1960 in India the highest number of insertion (1 million) occurred in 1966. Subsequently the insertion rate dropped down to a considerable extent ultimately making the device completely unacceptable. The

TABLE VI
Distribution of Cases by Cumulative Events (Removal, Expulsion, Pregnancy and Continuation Rate)

Time period	I.U.C.D. Removal				Expulsion		Pregnancy Continuation Rate			
	Lippes		CuT				I.U.C.D. in Situ			
	Medical Reason	Personal Reason	Medical Reason	Personal Reason	Lippes	CuT	Lippes	CuT	Lippes	CuT
Less than 1 month	-	4	-	-	5	—	-	-	91	100
1 to 2 months	2	1	–	1	1	*1	-	-	87	98
3 to 6 months	3	1	-	-	1	—	1	–	82	98

* Half expelled.

following reasons may be held responsible for the cause of decrease in use of I.U.C.D. in India.

1. Lack of proper sterile technique for insertion leading to infection and other complications.

2. Improper selection of case for which the target oriented programme may be held responsible.

3. Insertion of the device made by large number of less trained personnel leading to higher than anticipated rate of bleeding, pain, expulsion and pregnancy.

4. Inadequate number of trained personnel for follow-up the cases particularly in rural cases.

The main purpose of immediate post-abortal insertion of I.U.C.D. is to pick up more cases of direct acceptors when they are highly motivated not only to accept contraceptive methods offered but to continue with the same too, so that further pregnancy may be successfully avoided (Roy Chowdhury, 1975). Inspite of high rate of initial expulsion long term continuation with immediate inserted I.U.C.D. is not much less than I.U.C.D. inserted at large interval. Many such patients may not return for post-abortal check up particularly in developing countries like ours. Immediate post-abortal insertion of I.U.C.D. can be an important programme component in that conditions. The risk of expulsion in post-abortal case is lower than that of immediate post-partum insertion of I.U.C.D. can be an important programme component in that conditions. The risk of expulsion in post-abortal case is lower than that of immediate postpartum insertion. At Safdarjang Hospital only 8.8 per cent of I.U.C.D. inserted following abortion, had been expelled at 36 months, whereas in post-partum insertion the similar figure was 34.9 per cent (Phatak and Chandarkar, 1971).

A comparative analysis has been made in the present study between the two types of devices namely Lippes loop and Cu T. It was observed that in all aspect Cu T was much superior to Lippes loop so far as side effects e.g. pain, menstrual disturbances, expulsion rate and pregnancy rate were concerned.

Although the risk of pelvic inflammation is slightly higher in immediate post-abortal insertions than in late insertions of I.U.C.D., according to Ratnam and Tow (1974) the incidence of uterine perforation appears to be much lower among the former group than in latter group—post-abortal insertion (0.24 per cent) and in interval case (1.8 per cent).

In the present study neither in Lippes loop nor in Cu T insertions, there was any incidence of uterine perforation. The copper devices appear to cause less bleeding than Lippes loop.

The rate of removal of Cu T for pain is negligible in comparison to that in Lippes loop (11 per cent—Lippes loop and 1 per cent—Cu T).

The pregnancy rate as reported by Wood (1971) in interval phase, was twice higher in Lippes loop than in Cu T. The present study shows a continuation rate of 98 per cent, pregnancy rate 0 per cent, expulsion rate 1 per cent, rate of removal for personal reason 1 per cent in Cu T. Corresponding figures for Cu T as reported by Rowe (1971) were continuation rate 98.4 per cent, pregnancy rate 0 per cent, expulsion rate less than 2 per cent, rate of removal less than 1 per cent. Major disadvantage of Cu T is that, it is not commercially available in India as yet, which makes its mass scale use impossible. One more disadvantage of the same device is the need for replacement when the CuT is exhausted usually after 2 years.

We would, therefore, conclude from this study that immediate postabortal insertion of I.U.C.D. is quite safe and beneficial for the vast majority of mothers coming for medical termination of pregnancy.

There were no serious complications within 6 months following immediate post-abortal I.U.C.D. insertion. Of the two types of devices Cu T was found to be far superior to Lippes loop in all possible aspects.

Summary

1. A comparative analysis was made in three groups of cases of identical number i.e. 100 in each group following termination of pregnancy by vacuum aspiration—Group A, without any insertion of device; Group B, with Lippes loop; Group C, with Cu T.

2. Side effects and complications as pain, bleeding, menstrual disturbances, expulsion, perforation, continuation rate and pregnancy rate were computed in above three groups showing the satisfactory performance of Cu T in all aspects.

3. A plea has been made for immediate post-abortal insertion of I.U.C.D. particularly Cu T provided the same is available to take the post-partum programme successful in our country.

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